

Rogers (W. C.)

AN ADDRESS

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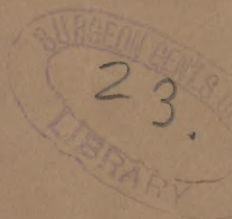
— ON THE —

REGISTRATION OF DISEASES,

RE-PRINTED, WITH ADDITIONS, FROM THE TRANSACTIONS OF
THE N. Y. STATE MEDICAL SOCIETY,
FOR THE YEAR 1859,

Regards of ✓
BY WILLIAM C. ROGERS, M. D.,

GREEN ISLAND, ALBANY CO., N. Y.



TROY, N. Y.:

D. H. JONES, PRINTER, 216 RIVER STREET.
1859.

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THIS ADDRESS was read before the Albany County Medical Society, at its Annual Meeting in November, 1858, and referred by the Society to the State Society, with a recommendation to publish, and printed by the State Society in its Volume of Transactions for the year 1859.

ADDRESS.

"If the different sciences offer to us a varying degree of precision, it is from no want of certainty in themselves, but in our mastery of their phenomena."—*Auguste Comte.*

INVESTIGATIONS into any department of inquiry, to be successful, must be conducted according to a method specifically adapted to attain the end in view, and sufficiently simple and practicable to assist in the greatest, and embarrass in the least possible degree in the attainment of that end. The instrument should be no heavier than the hand can wield, or the eye direct with ease, certainty and effect. In metaphysical philosophy the methods are as numerous as the philosophers themselves, and the results attained satisfactory to no two students of the same school. In positive philosophy the study of phenomena and their laws is daily overcoming obstacles utterly insurmountable by any previous method, and producing results more commensurate with human wants. The application of the same method to the study of disease, made within the present century certainly within the memory of many members of our profession now living, has produced, and is daily producing, results as satisfactory and as promising for the future as has the application of the same method to the study of celestial and terrestrial physics.

In the latter departments of investigation, positive science has been the result; and in the department of practical medicine it simply remains for the profession at large, for each member of the profession in the daily discharge of his duties, to understand and apply this method in order to increase our knowledge of the natural history of disease and its treatment, and to answer affirmatively and satisfactorily the oft-reiterated question, "Is there certainty in medicine?"

In order to apply the positive method of investigation to the solution of the problems of disease, the first step is to *accumulate facts* as to the occurrence, the topography, the meteorology, the phenomena, the duration, the terminations, the concomitants and the sequelæ of disease; the modifying influences of age, sex, occupation, and of habits of life; and the great means by which these facts are to be accumulated is REGISTRATION.

In order to substantiate this assertion, let us examine into the manner in which the use of a complete system of registration will enable us to attain some few of the above-mentioned results.

The greater the number engaged in registration the more important the results, since a greater number of facts will be recorded, and if some plan be adopted by which these isolated facts can be collected and grouped according to their affinities, important results will unquestionably be obtained. The practical working of the plan now adopted by the State Society will eventually furnish us with an accurate medical topography of the State, but this result can be more speedily and more satisfactorily attained by the adoption of this system of registration by each County Medical Society in the State.

The medical topography of each county will thus be determined accurately by the facts and figures of the physicians of that county, and the *tabulated results of these figures*, and not the vast mass of undigested figures themselves, transmitted to the proper officers of the State Society, accompanied by a full meteorological record, will doubtless lead to the early discovery of striking and important coincidences, and, in time, lead to the discovery of laws which will throw a flood of light upon many obscure points in theoretical and practical medicine; and especially is this true in reference to those epidemic and contagious diseases which one year reign with virulence in one portion of the State, and in a year or two thereafter suddenly break out with renewed virulence in another and perhaps distant part, and destroy many valuable lives before the causes, the pathology and the treatment thereof are clearly understood by the physicians who are called to combat this, to them, new and untried foe.

Did the transactions of the State Society present each year all the facts and figures of the epidemics of the preceding year, the experience of those who had been called to combat these diseases would become the common property of the profession, which would thus be more completely armed for the emergency which may arise at any season.

In confirmation of this opinion, I would state that Dr. Heartt, of Waterford, Saratoga County, N. Y., expressed himself under great obligation to articles Nos. 6, 7 and 13, in the last volume of the Transactions of the State Society, on the subject of Cerebro-Spinal-Meningitis, for information as to the nature and treatment of this terrible disease which prevailed as an epidemic at Waterford during the winter and spring of the present year, 1858. Article No. 6, by Dr. Thomas, is valuable for its brief history of the disease, a statement of its pathology and treatment in this country and in Europe, and analysis of its diagnostic signs and symptoms.

Article No. 7, by Dr. Kendall, is valuable for its faithful history of cases and their treatment, while Dr. Squires' article, No. 13, is valuable for its history of forty-three cases, and the post mortem appearances presented by three cases, tables showing the duration of the disease, and a statement of its various terminations. These papers are of very great value, both to those who may be called upon to combat an epidemic of this fearful disease, and to the future historian of epidemics.

Papers and addresses on the history of medicine, on the code, and on kindred topics, are all valuable in their place ; but histories of epidemics, their supposed causes, signs, symptoms, terminations, sequelæ and treatment, are doubly valuable, and their publication in the Transactions of the State and County societies, would increase their value, add to the reputation of the profession, and serve to re-establish the regular practice of medicine in the confidence of the public.

The necessity for a system of registration has long been felt, but how it was to be obtained was unknown. Great dependence was placed upon hospital reports, of in and out patients, and upon the Medical and Surgical reports of the armies of various countries. Says the editor of the *Brit. & For. Med. Chi. Rev.*, January, 1837, p. 262 :

"It is only by the contribution of particular facts and of general results that much good can be done to medicine. The time has arrived when a general and well arranged system of hospital reporting must begin to attract serious attention." P. 262.

Says the editor of the *British Medical Almanac* for 1837 : "The first step in medical statistics, after having determined the mortality, is to ascertain the number of attacks of sickness at different ages, to which a population is liable, and the numbers constantly ill. Hospitals throw no light on these questions or on the absolute mortality or duration of cases." Quoted in *B. & F. Med. Ch. R.*, 1837, p. 263.

The same editor recommends "the stating with accuracy the duration of the disease ; the number of days the patient has been ill before admission ; the number of days he continues under treatment. Accuracy is above all things to be desired, and next to accuracy comes method. It is clear that the time is arriving when the medical officers of hospitals will find their best interest in rendering the facts which occur in these institutions as extensively useful as possible to the profession. System will enable them to offer those facts in the best form, at the least trouble." *Ut. supra*, p. 265.

How well this latter prediction of Dr. Johnson, the then editor of the *British Medico-Chirurgical Review* has been fulfilled will be apparent to every reader of the Medical Journals of the day. Every well supported

Journal in this country and in Europe, devotes many pages of each issue to hospital reporting, and one has been recently established in this country for the express purpose of reporting the practice of the Philadelphia Hospitals, and is receiving a constantly increasing patronage from a profession which is now as clamorous for facts as it was formerly for new and splendid theories.

The want of a system for accumulating facts in medicine and surgery is clearly presented in the above extracts; and hospitals, though evidently inadequate to furnish solutions for all the problems which statistics can alone furnish, are relied upon in the want of facts and figures from other sources, and their officers urged to present reports and cases. So earnest was the editor of the *Med. Chir. Rev.* on this point, that he begged of the medical attendants of the hospitals to present their figures, no matter how many or how dull, so long as accurate, and they should have a place; but he is compelled to add in another paragraph, in alluding to the *indolence* of hospital physicians:

"Four out of five of the medical officers of our present institution do not publish reports of their practice or their cases, simply because it is not an integral part of their duties and is not volunteered." *Op. Citat.*, Oct. '35, p. 558.

Convinced that the hospitals were not to be relied upon, he recommends that the facts presented by such hospital reports as were published, be united with the reports published by the private practitioner, and that statistics thus obtained form the basis of calculations. On this subject he says:

"We would suggest the combination of statistical reports, that is, summaries of facts, and individual cases. For the purposes of general utility we would say that statistical records and collections of cases calculated to display the general laws of disease or treatment, are preferable to individual instances of rare complaints. The latter are too often chosen because they excite curiosity and interest. The accomplished physician or surgeon is too apt to measure the attainments, the appetites and the wants of his profession by his own. Things familiar to him he too readily concludes to be equally familiar to all, and hence the prevalence of transcendental pathological papers in our journals and transactions. *One sound and universal induction is worth much more, in a useful point of view, than the most extraordinary fact or the most imposing theory.* Such should be the aim of those who write for the real instruction of the public—of our clinical reporters. It is with facts that they have essentially to do, and their object should be to transfer the experience of the ward to the report." *B. & F. Med. Chir. Rev.* Oct. 1835, pp. 549, 550.

I have made these long quotations because they state the want of a system of registration, such as I am here to advocate ; because they suggest a very imperfect method of supplying that want, which imperfect method will compare favorably with the system now recommended by the State Medical Society, and which has been used, in part, successfully by my father in medicine, Dr. Brinsmade, of Troy, for the past thirty years, and because it is consoling to echo such old, such distant yet magnificent thunder as that of the leading Medical Journal of the world, whose editor was, twenty-five years ago, wiser in his day and generation than very many members of our profession to-day.

The question of the comparative liability of the sexes to certain diseases common to both, must be settled by statistics, and these statistics can be obtained by registration alone. In order to substantiate this assertion, allow me to present some calculations based upon the facts and figures accumulated by Dr. Thomas C. Brinsmade, of Troy, N. Y., the present President of the State Medical Society, and embodied in his "Vice President's Address" for the year 1857. Trans. N. Y. State Med. Soc., 1858, pp. 256, 556 inc.

Assuming diarrhœa, cholera morbus and dysentery to be the archetypes of those zymotic diseases which we are called upon most frequently to treat, let us examine the numerical ratio of the sexes affected by these diseases.

1. *Diarrhœa*.—During the 10 years from 1848 to 1857, inclusive, Dr. Brinsmade records 3,147, of which 1,592 were males, and 1,555 females. Liability of the sexes the same.

The healthiest year of the 10 was 1848. Number of cases, 245 ; males, 106 ; females, 139 ; ratio, 1.33 females to 1 male. The most unhealthy year was 1849. Number of cases, 486 ; males, 270 ; females, 216 ; ratio, 1.25 males to 1 female.

Can we infer from these figures that during epidemics males are more subject to diarrhœa than females, and *vice versa* in healthy seasons ?

2. *Cholera Morbus*.—During the same length of time there were recorded 685 cases of cholera morbus, of which 322 were males, and 363 were females ; ratio, 1.13 females to 1 male. The smallest number of cases of cholera morbus was recorded in 1848, 1850 and 1855, when 151 were treated, 59 being males, and 92 females ; ratio of females to males, 1.56 to 1.

The greatest number of cases were recorded in 1849, 1854 and 1856, when 308 cases were recorded, of which 148 were males, and 160 females ; ratio of females to males, 1.08 to 1.

Can we infer from this that females are more obnoxious to cholera morbus, at all seasons, than males?

3. *Dysentery*.—During the 10 years 536 cases were recorded; males, 214; females, 322; ratio of females to males, 1.5 to 1.

So striking a disparity as this would lead us to infer that females are more liable to this disease than males; and if so, can we account for the fact from the well known sympathy which exists between the uterus and the rectum? Many of the principal emmenagogue remedies used by the profession contain aloes, which also enters into the composition of most of the quack nostrums, which, as the advertisements say, "must not be taken during the first three months of pregnancy." Does the liability of the sex to this disease depend in any great degree upon the occasional or habitual use of this drug? Does the irritable condition of the rectal and uterine nerves, induced by the specific action of this drug, predispose the sex to dysentery and abortion? Does the use of aloes as a purgative for girls predispose them to dysentery and abortion in after life?

The question of the comparative liability of the sexes to disease, and exemption therefrom, at different periods of life, is one of great interest, and can receive its solution from statistics alone. The subject is one which has received comparatively little attention, from the want of data sufficient to form the basis of reliable calculations. Though the figures presented by Dr. Brinsmade's tables are comparatively small, they are yet sufficient to show how completely all problems of this nature may be solved by the numerical method of investigation. Diarrhœa, cholera morbus and dysentery furnish us with many interesting calculations.

1. *Diarrhœa*.—Whole number of cases recorded, 3,147; males, 1,592; females, 1,555; excess of males, 37.

TABLE 1.

1		5		10		20		30		40		50		60		70		80		90	
m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.
123	140	316	398	57	81	90	89	235	170	425	335	143	163	107	92	51	51	22	25	3	5

From 1 to 10 there were 1,115 cases, which is one-third the whole number. Males, 496; females, 619; ratio of females to males, 1.25 to 1.

From 10 to 20 there were 179 cases, which is one-eighteenth of the whole number. During this, the period of adolescence, the liability of the sexes the same—90 males, 89 females.

From 20 to 50 there were 1,497 cases; males, 823; females, 674; ratio of males to females, 1.33 to 1.

From 50 to 90 there were 667 cases; males, 326; females, 341; excess of females, 15. Liability of the sexes about the same; very slightly in favor of the males.

The above table develops the fact that the period of the greatest exemption from diarrhœa extends from the 5th to the 20th years; and not only is this true of diarrhœa, but of many other diseases of entirely different character. This is contrary to the generally received opinion, but I believe that registration will show that the period of adolescence is the period of the most uniform and perfect health. The dangers of dentition once past, the powers of nature are so completely engrossed in the conservation and perfection of the growing man, that the ordinary causes of disease produce but slight and temporary effects; and I am of the opinion that if our life was as spontaneous, as true to nature, and as uniformly cheerful, in manhood as in youth, the period of our greatest usefulness would be the period of our greatest health. Ninety-nine out of every hundred diseases that flesh is heir to, are the result of gross violations of the known laws of health, which a little care, a little attention, a little study would enable us to avoid. Diseases are invited by unphysiological living; never sent in judgment of any but physiological sins.

Second. Cholera Morbus.—Whole number of cases treated, 685. Males, 322; females, 363; ratio of females to males, 1.13 to 1.

TABLE II.

	1	5	10	20	30	40	50	60	70	80	90
	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.
Under	6 2	25 16	29 20	26 28	52 59	68 91	61 63	35 34	13 24	7 12	1 2
	1 males more liable to c. m. than females, in the ratio of 3 to 1.										
From	10	"	"	"	"	"	"	"	1½	to 1.	
	10 to 30 the liabilities are equal.										
	30 to 40 females more liable than males in ratio of 1 2.5 to 1.										
	40 to 70 the liabilities are equal.										
	70 to 90 females more liable than males, in the ratio of 2 to 1.										

Third. Dysentery.—Whole number of cases treated, 536. Males, 214; females, 322; excess of females, 108. Ratio of females to males, 1.5 to 1.

TABLE III.

	1	5	10	20	30	40	50	60	70	80	90
	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.
From	16 26	33 42	16 14	20 28	27 69	50 78	33 25	12 23	4 11	2 6	1
	1 to 5 ratio of females to males, 1 2.5 to 1.										
	5 to 20 " " " 1 1.5 to 1.										
	20 to 40 " " " 1 4.5 to 1.										
	40 to 50 " " " 1½ to 1.										
	50 to 90 " " " 1¾ to 1.										

It will be seen from this table that the period of the greatest liability to this disease is from the 20th to the 50th years, which is the period of child-bearing, and of the greatest uterine derangements. I think that in this disease there can be no doubt as to the influence of sex in predisposing to repeated attacks, and the records or the memory of every practitioner will furnish cases in which an attack of dysentery has excited and induced abortions and miscarriages.

Next in numerical importance to the three leading zymotici just considered, stand the two leading pneumonici, bronchitis and pneumonia, the

following calculations for which are based upon the ten years from 1848, to 1857, inclusive :

Bronchitis.—Whole number of cases, 3,372. Males, 1,556 ; females, 1,816. Excess of females, 260. Ratio of females to males, 1.16 to 1.

TABLE 4.

1	5	10	20	30	40	50	60	70	80	90	
m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	
106 156	263 436	109 162	98 110	223 261	450 416	169 113	69 71	50 54	16 29	2 4	
Under 1, females more liable than males, in the ratio of 1.1-5 to 1.											
From 1 to 5 do		do		do		do		do		do	
5 to 10 do		do		do		do		do		do	
10 to 20 the liabilities are equal.											
20 to 30 females more liable than males in the ratio of 1.17 to 1.											
30 to 40 liabilities slightly in favor of the females.											
40 to 50 males more liable than females in the ratio of 1½ to 1.											
50 to 70 the liabilities are about equal.											
70 to 90 females more liable than males in the ratio of 1.23 to 1.											

From these tables we perceive that during infancy and childhood the liabilities of the sexes are in the ratio of 1.56 females to 1 male. During adolescence the liabilities are equal, and the difference up to 40 is so slight as to merit little attention. Under 50, males are more subject to this disease in the ratio of 1½ to 1. From 50 to 70 the liabilities are equal, but during extreme old age the females suffer far more from this cause than the males. The exemption of both sexes from this disease during the 10 years from 10 to 20, is remarkable, the ratio being one-sixteenth the whole number of cases.

These conclusions in reference to bronchitis are corroborated in many respects by the conclusions derived from the following table, from "the report of the out cases of the Birmingham Infirmary, for the year 1834," to be found in the *Med. Chir. Rev.*, July, 1835, pp. 241, et seqr. :

Under, - - - - -	10		20		30		40		50		60		above. 60		Total.	
	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.		
Acute Bronchitis, - - - - -	54	72	13	12	8	26	16	19	13	19	8	7	4	3	116	158
Chronic do. - - - - -	3	..	3	5	6	14	11	20	14	25	15	34	51	98
Total, - - - - -	54	72	16	12	11	31	21	33	24	39	22	32	19	37	167	256

Whole number of cases 423. Males, 167 ; females, 256. Ratio, 1.5 females to 1 male.

Under 10, 54 males, 72 females. Ratio of females to males, 1.3 to 1.
 20, 16 do 12 do. do males to females, 1.3 to 1.
 30, 11 do 31 do. do females to males, 3 to 1.
 30 to 60, 67 do 104 do. do do do 1.6 to 1.
 Above 60, 19 do 37 do. do do do 2 to 1.

These calculations cover a period of but one year, and are entirely insufficient to form the basis of reliable inferences, and yet in some points they strikingly corroborate Dr. Brimsdell's facts and figures, extending through a period of twenty years. Especially is this true in reference to the exemption of both sexes from bronchitis during the ten years, extending from 10 to 20. According to this report the number treated between

these years is 23, which is one-eighteenth of the whole number. According to Dr. B's figures the number treated was 208, which is one-sixteenth of the whole number.

Pneumonia.—Whole number of cases, 318; males, 180; females, 138; excess of males, 42; ratio of males to females, 1.39 to 1.

TABLE 5.

1		5		10		20		30		40		50		60		70		80		90	
m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f
16	12	24	13	29	15	18	8	24	10	36	30	21	21	4	12	5	8	2	9	1	0
From 1 to 5 males more liable than females, in ratio of 1 1.3 to 1.																					
		5 to 20		do		do		do		do		do		2		to 1.					
		20 to 31		do		do		do		do		do		2		2.5 to 1.					
		30 to 40		do		do		do		do		do		1		1.2 to 1.					
		40 to 50		liabilities equal.																	
		50 to 90		females more liable than males		in ratio of 2		3.5		to 1.											

The exemption of both sexes from this disease during the 10 years, from 10 to 20, is very remarkable, the number being 26, which is one-twelfth the whole number. When we remember that this is the age of detestability for both sexes, the age of the most thoughtless exposure of their persons in all hours, weathers and seasons, the numerical ratio in this disease and bronchitis to the whole number of cases, is certainly most remarkable, and can only be accounted for on the supposition that the vitality of the system is so great as to resist the causes of these diseases with almost uniform success.

Next in numerical importance, though certainly first in the intensity of suffering which it entails, is neuralgia, to which the female is particularly obnoxious.

Neuralgia.—Whole number of cases, 1,164. Males, 356; females 808. Excess of females, 452. Ratio of females to males, 2.27 to 1.

TABLE 6.

1		5		10		20		30		40		50		60		70		80		90	
m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.
---	4	5	26	26	34	67	65	182	109	291	61	110	29	73	14	34	5	19	11	1	1
From 1 to 10 the liabilities of the sexes are equal.																					
		10 to 20		females more liable than males,		in ratio of 2		to 1													
		20 to 30		"		"		"		2 4-5		to 1									
		30 to 50		"		"		"		1 7-10		to 1									
		50 to 60		"		"		"		3		to 1									
		60 to 70		"		"		"		2 2-5		to 1									
		70 to 80		"		"		"		4		to 1									
		80 to 90		males		"		females		11		to 1									

From this table we perceive that infancy is exempt from this disease; that up to the period of puberty the liability of the sexes is the same; that from that period during the whole time of child-bearing, and until the grand climacteric of woman's life is past, her liabilities to this disease are from two to three times as great as man's. It is well to bear in mind, in this connection, that 209 cases of hysteria, and 268 cases of dysmenorrhœa, diseases peculiar to females, and accompanied, in the great majority of

cases, by much nervous derangement, and consequent suffering, might be added to the above figures to furnish a just estimate of the painful neuroses to which the sex is most especially liable.

We are told that the devout Jew, on entering the synagogue, turns his face towards the holy city, and prefaces his devotions with this thanksgiving: "Oh! Lord, God of Abraham, Isaac and Jacob; I thank thee that I am not a woman!"

Had he practiced medicine, and studied diseases statistically, he would have found abundant reasons for his most hearty and devout thanksgivings.

But in estimating the influences of sex in predisposing, causing and inducing disease, there remains yet another element which enters into the calculation, and which affects its results in a very great degree, and that element is *occupation*. No one can deny for an instant that her sedentary habits of life, and the confining nature of her employment has much to do with woman's liability to disease, and it is an interesting and instructive fact, that those men whose occupations partake most of the nature of the occupations of woman, suffer most—and justly, in some instances—from the same diseases which make her life a martyrdom. In other countries, where woman has more liberty of choice, greater freedom from conventionalisms and a wider range of masculine occupations, her liability to these neuroses is but slightly greater than man's.

The influence of occupation upon all the functions of life, is far greater than many of us suppose. That occupation which requires long continued patient and laborious toil, develops a patient, persevering and determined frame of mind, a mind equal to the surmounting of great and lasting obstacles, just as it develops a corresponding demand for food, a corresponding assimilating power and a strength of body equal to the strength of purpose and the scope of mind. And the diseases to which a person thus occupied, and thus affected by his occupation, is most liable, differ essentially in degree, if not in kind and character, from those which affect the clerk, the cigar-maker, the tailor or the book-keeper. But into this branch of my subject I have neither the time nor the data to enter, but beg to state, in this connection, that it is only by registration, practiced by the profession for many years, that the influence of occupation in predisposing to disease, can be accurately determined. And I am furthermore, of the opinion that the time will come when the profession will so completely understand this subject, as to be enabled to prescribe the occupation best adapted to relieve chronic affections, and to protect those predisposed from diseases which other occupations might invite and develop.

Says Dr. Chas. Frick, of Baltimore, in an address introductory to a course on materia medica, delivered before the medical class of the University of Maryland, October 7th, 1858: "Rest, abstinence and other dietetic measures—the whole doctrine of hygiene and regimen of body and mind—form as essential a department of materia medica and therapeutics, as any of the drugs that will be presented to your notice." P. 13.

To this catalogue may be added *occupation*, an element of the materia medica which has heretofore received but an insignificant measure of time and attention.

Scarlatina.—Whole number of cases recorded, 302. Males, 119; females, 183. Ratio, 1.54 females to 1 male.

TABLE 7.

1		5		10		20		30		40		50		Total.	
m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.
6	4	57	68	39	51	9	26	3	17	6	14		3	119	183
Under 1, ratio of males to females, 1.5 to 1															
From 1 to 5, " females " males, 1.2 to 1															
" 5 " 10, " " " " 1.6 to 1															
" 10 " 20, " " " " 3 to 1															
" 20 " 30, " " " " 5 to 1															
" 30 " 40, " " " " 3 to 1															

The above figures in many respects strikingly corroborate the fact, and figures presented by Dr. J. F. Meigs in his "Practical Treatise on the Diseases of Children," (2nd edit. 1853). He had seen 173 cases, of which 101 occurred in children under 5 years of age. In the above table 302 cases are presented of which 135 were under 5 years of age. The total mortality under ten years of age in the city of Philadelphia for a period of 30 years was 2171, of which 132 were under one year of age, 411 between one and two, 1130 between two and five, and 510 between five and ten. Op. Cit. p. 487.

The influence of sex, Dr. M. observes, has not been determined with certainty. Dr. Tweedie (*Cycl. Prac. Med.*; Art *Scarlatina*) says it is most common in girls.

M. M. Rilliet and Barthez state it to be most common in boys. Dr. Meigs noted the sex in 184 cases under 15 years of age, 90 of which were males and 94 females, and remarks "the truth is, probably, that under puberty it attacks the two sexes with equal frequency, while after that age it is most common in females." (Op. Cit. p. 487.)

With this uncertainty and discrepancy among authors of the highest standing it is necessary that this question should be definitely settled, a consummation to be attained only by statistics, such as Dr. Brinsmade has presented to the profession.

From the above table females would appear to be more liable to the disease than males in the ratio of 3 to 2. Under 5 the liabilities are substantially the same. After that age it is decidedly dangerous to be a female, especially during epidemics of this most serious disease.

The influence of the seasons on this disease is most remarkable and is strikingly exhibited by Dr. B.'s Tables for the 10 years ending 1857. During this period there were treated by him 302 cases occurring in the different months as follows :

January 53,	May 15,	September 3,
February 44,	June 7,	October 15,
March 51,	July 16,	November 32,
April 21,	August 6,	December 39,

If we divide these months into seasons, the numbers stand as follows :
viz.

Dec., Jan., Feby.,	Mar., Apl., May,
136.	87.
June, July, Aug.,	Sept., Oct., Nov.,
29,	50.

from which it appears that nearly one half of the cases of this disease occur in winter, rather more than one third in the Spring, about one tenth in the summer and one sixth in the fall.

The question of the season in which this disease is most prevalent is unsettled, and can only be settled by registration.

Measles.—Whole number of cases recorded 264 ; Males 136 ; females, 128 ; Liabilities about equal.

TABLE 8.

1		5		10		20		30		40		Total.
m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m. f.
10	9	42	51	56	36	14	15	9	10	5	7	136 128 264

Under 1, liabilities equal.

" 5, ratio of females to males, 1.2 to 1.

" 10, " " males to females, 1.5 to 1.

After 10, liabilities equal.

The exemption of children under 1 is remarkable, and confirms the observation of Stewart, *Dis. of Children*, p. 416; that "measles more frequently attacks children after the period of dentition than before," though children newly born have been known to suffer from the disease.

The influence of the seasons upon this disease is clearly shown in Dr. Brinsmades' Tables, and confirms the observation of preceding observers.

During the 10 years from 1818 to 1857 incl., the prevalence of the

disease during the months was as follows: viz.

January 27,	May 30,	Sept., 1,
February 28,	June 17,	Oct., 6,
March 42,	July 15,	Nov., 26,
April 42,	Aug., 2,	Dec., 28.

Divided into seasons the numbers stands as follows:

Dec., Jan., Feby.,	Mar., Apl., May,
83.	114.
June, July, Aug.,	Sept., Oct., Nov.,
34.	33.

From which we may infer that Measles is emphatically a disease of the Spring and winter, by far the largest proportion of cases occurring in the Spring.

Sydenham states that the epidemic measles of the year 1670 "set in early *as usual*, *i. e.* at the beginning of January. They gained strength every day until they reached their height about the *vernal* equinox: after this they gradually decreased at the same rate, and by the month of July were wholly gone."

Sydenham's Works Latham's Ed. Vol. I, p. 218, quoted by Haviland *op. cit.* p. 85.

This quotation is strikingly corroborated by Dr. Brismade's observation for 10 years.

The greatest number of cases of measles recorded by Dr. B. in any one year was in 1857, when the disease was epidemic throughout this section.

Whole number of cases recorded 97.

January 3,	May 13,
February 7,	June 4,
March 35,	July 2,
April 33,	

Stewart remarks, *Dis. of Children* p. 416, this disease "usually shows itself as an epidemic during the cold and changeable weather at the close of the winter."

Measles appeared as an epidemic in 1854 in London, when 1399 patients fell victims. The following exhibits the relative mortality of the seasons:—

Spring,	Autumn,	Winter,	Summer,
476;	369;	344;	210.

The greatest number of deaths in that year was during the 16th week (April) when 52 fatal cases were recorded: the least number of deaths was during the 40th week (Oct.) when 10 fatal cases were put on record. Haviland, *op. cit.* p. 84.

Rhazes, who first describes this disease and diagnosed it from Small Pox says, "when the summer is excessively hot and dry, and the autumn is also hot and dry, and the rains come on very late, then the measles quickly seize those who are disposed to them." We have here a description of the *kind of season* most favourable to the development of this disease, which almost invariably prevails after the long, cold rains of changeable seasons. Haviland, op. cit. p. 85, 86.

Croup.—Whole number of cases recorded 185. Males 89 : females 96.

TABLE 10.

1		5		10		20		Total.	
m.	f.	m.	f.	m.	f.	m.	f.	m.	f.
9	12	46	66	33	18	1		89	96

Under 1, females more liable than males in ratio of 1.3 to 1.

" 5, " " " " " " " " 1.4 " 1.

" 10, males " " " females " " " 1.8 " 1.

Watson, Wood, and Meigs note the exemption of children under 1 from this disease. Of 86 cases of spasmodic croup noted by Meigs (J. F.) (op. cit. p. 66,) 8 were under 1, 29 under 2, 18 under 3, 17 under 4, 9 under 5, 2 under 6, 2 under 7 and 1 under 8 years of age, giving 8 under 1 and 73 under 5. Of these 86 cases 48 were boys and 38 girls.

The influence of the seasons is shown in the following table :

Jan.,	Feb.,	Mar.,	April,	May,	June,	July,	Aug.,	Sep.,	Oct.,	Nov.,	Dec.,	Total.
19	14	28	12	14	9	10	3	12	13	23	28	89
												96
												185

In the above tables all cases of Croup, whether spasmodic or Pseudo-Membranous are included under the generic title Croup. The observation of others that males are more liable than females to this disease is not confirmed by the above.

Cholera Infantum.—Whole number of cases 240 : Males 116 : females 124.

TABLE 11.

1		5		10		Total	
m.	f.	m.	f.	m.	f.	m.	f.
44	39	70	85	2		116	124

There is but little here worthy of remark. The ratio of the sexes is so nearly the same as to show no peculiar liability of either males or females. In the following table we have exhibited the comparative frequency and comparative liability of the sexes to Cholera Infantum, Diarrhœa and Dysentery during 10 years.

TABLE 12.

	1848.		1849.		1850.		1851.		1852.		1853.		1854.		1855.		1856.		1857.	
	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.	m.	f.
C. In.....	11	17	12	12	6	8	10	16	16	3	8	12	19	21	3	10	15	5	16	20
Diar.....	106	139	269	269	131	142	137	141	147	147	182	186	270	216	154	162	114	134	131	131
Dys.....	34	23	50	60	22	29	18	38	21	40	39	22	11	37	7	19	16	9	25	34

The same remarks holds true of the three diseases, that, during certain seasons (epidemics?), from some unknown causes, the liability of one of the sexes is very greatly increased. Why this should be so can only be discovered by the careful observation and research of many "ministers and interpreters of nature" anxious to solve every problem which falls legitimately within the domain of human reason.

Thermometrical observations are invaluable in the philosophic study of disease, and should be made by all recorders at certain fixed hours of the day and night. A reference to the plates accompanying and illustrating Dr. Brinsmade's address, abundantly establish this position. Barometric observations, to be of use, must be studied in connection with the hours of the accession and recession of certain acute, and of the exacerbations of certain chronic diseases. A reference to Dr. B.'s tables abundantly fortifies this position. In table II, the mean thermometer and barometer readings for twenty-one years are given in connection with the numerical ranges of diarrhoea, cholera morbus, bronchitis and pneumonia; but no law, not even the remotest approach to a coincidence, can be discovered by comparing the mean range of the barometer with the numerical range of these diseases. Had the barometer readings for every day during that long period, been studied in connection with the daily record of all diseases, or of a certain class of diseases, and especially in connection with the hours of the accession and recession of certain acute diseases, results as striking, as important, and doubtless, as conclusive as those exhibited by the thermometer range, would have been developed. In proof allow me to present the following quotations from Haviland's "Climate, Weather and Disease,"—London, John Churchill, 1855, 1 vol., 8vo:—"The winter was northerly and droughty, cold, with rough winds and snow; then paraplegia (apoplexy, &c.) began to show itself, and attacked many, and some died suddenly. Such is the simple and interesting statement made by Hippocrates: let us compare it with what Dr. T. Moffat has observed and recorded: 'Of the number of cases of apoplexy which occurred in the years 1850 and 1851, fifty per cent. took place on days of decreasing readings of the barometer, and fifty per cent. on days after such readings; one hundred per cent occurred with *fall of temperature*, and they all took place with a direction of wind S. E. to S. W. points of the compass; of seven sudden deaths, *five* occurred with wind from N. W., with *hail showers*.'" Op. cit., p. 49.

"As in the time of Hippocrates, so does it appear now, that *apoplexy* and *paralysis* are most fatal between the *end of autumn* and the beginning of *winter*. At the time of its greatest mortality, the barometer did not range more than half an inch in the week; and in the week when the last number of deaths was registered, the variation was greater, and the mercury higher, by nearly an inch, than it was in January. Between the autumn and winter, atmospheric pressure is certainly less than at other times of the year; and this fall of the barometer is coincident with the maximum of death from the above causes." Op. cit., pp. 51, 52.

To show the importance of meteorological observations in connection with registration of diseases, I beg to present the following suggestive observations and quotations, the importance of the subject amply apologizing for the length of my paper.

I cut the following from the New York Tribune for October 30, 1858:

"*Meteorological conditions as influencing disease.*—Dr. Moffat, of England, in a paper read before the Meteorological Society, has shown by a series of very elaborate tables, that an apparent connection is discoverable between the first appearance, increase, decrease and disappearance of atmospheric ozone with the decrease and increase of the readings of the barometer and thermometer, and the state of the weather generally. Also that prevalent diseases form groups corresponding with certain meteorological conditions. In the formation of these tables, Dr. M. paid strict attention to all the lesser fluctuations of the barometer and thermometer, being convinced that there exists a great necessity for so doing, from the slightest variations in the reading of the barometer being followed by a change in the direction of the wind, and the appearance and increase, or decrease and disappearance of ozone."

Of the influence which ozone or electrized oxygen may have in predisposing and causing disease, we may form some opinion from the facts stated in the following quotation from a review of Senebten's work on "Ozone, or Chemical, Meteorological, Physiological and Medical Researches into the nature of Electrized Oxygen," by Lewis H. Steiner, of Baltimore, in the March number of the Am. Med. Monthly, pp. 200, et seq., vol. ix., No. 3.

"Boeckel, of Strasburg, showed that there was an intimate relation between the development of cholera, in 1854—55, in that city, and the diminution or disappearance of ozone. In July of the former year the cholera was very fatal, and but little ozone was detectable in the atmosphere. On the 17th, when there was total deficiency of this substance, the disease was especially violent. This deficiency was not only in the air of the city, but of that of the adjoining country. During August the cholera

was particularly violent, and the ozonometric indicator was zero. On 15th of September, indications of ozone began to make their appearance, and the cholera sensibly diminished. When the former became very marked, then coryza, bronchitis and pneumonia became common. In the month of June, 1855, during the first four days, three nights were, according to the ozonometer, zero, and the cases of cholera which he saw broke out between midnight and 6 A. M. 'Boeckel concludes that the want of ozone constituted the predisposing cause, while the contagious miasma produced the disease which was then further propagated.' Drs. Robert and Conraux, of Newdorph, near Strasburgh, have also noticed this same apparent relation between the want of ozone in the atmosphere and the raging of cholera. Simonin, Sen., noticed such a relation at Nancy, in 1854, but not in 1855. Wolf, the director of the observatory at Berne, from an examination of the official list of deaths at Aarau, concludes that cholera is at least externally favored by the diminution of ozone." *Am. Med. Mon.*, vol. ix., No. 3, pp. 213, 214.

There is much more on the subject of the relations existing between the presence of ozone and the prevalence of certain inflammatory diseases which I should like much to present, but sufficient has been given to show the necessity of extensive and accurate observations to determine the efforts produced by this imponderable agent. There is another idea presented in this connection which to me looms up prophetic of the future solution of that most difficult of all subjects to investigate, the miasmata productive of disease. It has been determined from repeated experiments that ozone is a powerful disinfectant and deodorizer.

"Meat that was in a putrescent state, being plunged in a flask containing ozone, was quickly disinfected; horse dung which gave off a powerful ammoniacal odor, when plunged into ozone lost this odor; water from a maceration tub in the amphitheatre of a military hospital at Metz, was agitated in a flask with ozone, and made inodorous. Ozone is thus shown to be a great purifier of the air from miasmatic materials, and it renders the surface of the earth inhabitable although there is incessant decomposition of organic material; but as ozone is an energetic excitant of the animal system, its accumulation would be very detrimental; this is prevented by the law that oxydizable miasmatic material is destroyed by ozone, while in their turn they destroy it." *Am. Med. Mon.*, Vol. ix, No. 3, pp. 211, 212.

Now the idea which presents itself here is this; *if we are enabled to detect the presence of so imponderable an agent as ozone in the atmosphere, and to determine accurately the effects, for good and for ill, which it produces,*

may we not hope to be enabled, at no distant day, to detect the presence of that other equally imponderable agent, the miasm arising from decomposing vegetable matters, and to counteract, measurably at least, its deleterious influences? It is legitimate to infer that we may. Human reason, under the guidance of positive philosophy, has triumphed over difficulties as great, if not greater than this. And the question arises, who is to accomplish this consummation so devoutly to be wished? I know of no one except that pack-horse and drudge of all the sciences, the physician. He has moved the world in times past—he does it now—he is expected to do it in the future, and *he will*.

A few remarks upon the method of keeping a register and I am done :

Registrations to be of service in the study of disease, must be accurate and reliable, and must therefore be made daily. However much we may trust to memory in the other transactions of professional life, in the matter of registration, where the object is to obtain positive data which may lead to positive results, possibly to the discovery of the laws of disease, a knowledge of which is so essential to rational treatment, the importance of the subject demands the utmost care that no uncertainties enter as elements into our calculations. We must, therefore, record our cases each day, when all the circumstances attending them are fresh in our minds, and when there is the least possible chance for error. If we are unable to diagnose a disease on our first visit, the register should be made complete, but the column headed *disease* should be left blank until such time as the complete development of the disease enables us to diagnose it accurately. Should two diseases be presented together, in the person of one patient, the registration should include both diseases.

I have latterly adopted the plan of keeping a "prescription book," in connection with my register, and of referring from one to the other for a history of my cases, and though I have pursued the plan but a few months, find it of very great service. I do not record the prescription in every single instance, but where I find that the prescription of remedies after a certain formula has been followed by beneficial effects, I record the formula and refer to the recorded case, and am thus more completely armed for the next case of the same disease.

The physician's register should be to him what the merchant's ledger is to him, a book for constant study and perusal, and thus will he pursue his profession *as a profession*, and not *as a trade*, since by constantly referring to his cases, and the means employed in their treatment, he is as constantly renewing and reinforcing his experience, and perpetually reminding himself of the great object of his profession, the relief and the prevention of suffer

ing. If he studies his ledger to the neglect or exclusion of his register, he becomes a mere tradesman in his profession, and from falling into the hands of any such, in any time of need, "Good Lord, deliver us."

The one great object of registration is the accumulation of facts, and no fact, however small, is insignificant in the study of natural or morbid phenomena. Let us then be content to accumulate facts, great and small, even though we are unable to interpret them, or even to see their remotest and feeblest affinities. The accumulation of facts is the great end of modern labor in the various departments of our profession. We have no splendid and visionary theories, thank God! Our facts theorize themselves and our science advances accordingly, and if we cannot see the mutual relations of the materials we heap together, another generation will seize upon them, and erect a temple of theoretical and practical medicine, as faultless as the Parthenon, and as lasting as the necessities of man.

Says Auguste Comte:

"Some of the most important arts are derived from speculations pursued during long ages, with a purely scientific intention. For instance, the ancient Greek astronomers delighted themselves with beautiful speculations on conic sections; those speculations wrought, after a long series of generations, the renovation of astronomy; and out of this has the art of navigation attained a perfection which it never could have reached otherwise than through the speculative labors of Archimedes and Apollonius; so that to use Condorcet's illustration, 'the sailor who is preserved from shipwreck by the exact observation of the longitude, owes his life to a theory conceived two thousand years before, by men of genius, who had in view simply geometrical speculations.'" *Positive Phil.* vol. 1, pp. 20, 21.

HEADINGS OF A REGISTER, TO BE USED IN THE ORDIN-
FLUENCES OF AGE, SEX, NATIVITY, AND HABITS OF

Date.	Name.	Age.	Sex.		Nativity.	
			M.	F.	U S.	FOR.
Jan'y 1.	J. Smith.	25.	1.			1.

ARY REGISTRATION OF DISEASES, IN WHICH THE IN-
LIFE, AND THE DURATION AND DISEASES ARE TO BE NOTED.

Habits.		Disease.	Cured.	Duration.	Remarks.
T.	INT.				
	1.	Pneumonia.	Jan'y 14.	13 days.	Right upper lobe.

